

**EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT**

**REGARDING PROPOSED CHANGES TO
CALIFORNIA ELECTRICAL CODE
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 3**

(The State agency shall draft the regulations in plain, straightforward language, avoiding technical terms as much as possible and using a coherent and easily readable style. The agency shall draft the regulation in plain English. A notation shall follow the express terms of each regulation listing the specific statutes authorizing the adoption and listing specific statutes being implemented, interpreted, or made specific. (PART 1 – ADMINISTRATIVE CODE))

LEGEND FOR EXPRESS TERMS

1. Existing California amendments or code language being modified: All such language appears in *italics*, modified language is underlined.
2. New California amendments: All such language appears underlined and in italics.
3. Repealed text: All such language appears in ~~strikeout~~.

EXPRESS TERMS

**Proposed Amendments from 2001 California Electrical Code
to the 2004 California Electrical Code
(Based on 2002 National Electrical Code)**

**ARTICLE 089
Administration**

OSHPD will continue to adopt entire State Article 089

**ARTICLE 110
Requirements for Electrical Installations**

110.13 Mounting and Cooling of Equipment.

(A) Mounting. Electrical equipment shall be firmly secured to the surface on which it is mounted. Wooden plugs driven into holes in masonry, concrete, plaster, or similar materials shall not be used.

(B) Cooling. Electrical equipment that depends on the natural circulation of air and convection principles for cooling of exposed surfaces shall be installed so that room airflow over such surfaces is not prevented by walls or by adjacent installed equipment. For equipment designed for floor mounting, clearance between top surfaces and adjacent surfaces shall be provided to dissipate rising warm air.

Electrical equipment provided with ventilating openings shall be installed so that walls or other obstructions do not prevent the free circulation of air through the equipment.

(C) [For OSHPD 1, 2, & 4] Hospitals. *Electrical equipment and its supporting structure installed in*

hospital buildings shall be anchored and braced to withstand the lateral forces, and shall accommodate calculated displacements as required by Part 2, Title 24, C.C.R.

110.26 Spaces About Electrical Equipment. Sufficient access and working space shall be provided and maintained about all electric equipment to permit ready and safe operation and maintenance of such equipment. Enclosures housing electrical apparatus that are controlled by lock and key shall be considered accessible to qualified persons.

(F) Dedicated Equipment Space. All switchboards, panelboards, distribution boards, and motor control centers shall be located in dedicated spaces and protected from damage.

Exemption: Control equipment that by its very nature or because of other rules of the Code must be adjacent to or within sight of its operating machinery shall be permitted in those locations.

Exemption No. 2: [For OSHPD 1, 2, & 4] Wall spaces in patient care rooms shall not be used for the installation of switchboards and panelboards, unless dedicated for that room. **[NOTE: This existing amendment is being moved to Article 517.12]**

(1) Indoor. Indoor installations shall comply with 110.26(F)(1)(a) through (d).

(a) **Dedicated Electrical Space.** The space equal to the width and depth of the equipment and extending from the floor to a height of 1.8 m (6 ft) above the equipment or to the structural ceiling, whichever is lower, shall be dedicated to the electrical installation. No piping, ducts, leak protection apparatus, or other equipment foreign to the electrical installation shall be located in this zone.

Exception: Suspended ceilings with removable panels shall be permitted within the 1.8-m (6-ft) zone.

(b) **Foreign Systems.** The area above the dedicated space required by 110.26(F)(1)(a) shall be permitted to contain foreign systems, provided protection is installed to avoid damage to the electrical equipment from condensation, leaks, or breaks in such foreign systems.

(c) **Sprinkler Protection.** Sprinkler protection shall be permitted for the dedicated space where the piping complies with this section.

(d) **Suspended Ceilings.** A dropped, suspended, or similar ceiling that does not add strength to the building structure shall not be considered a structural ceiling.

(2) Outdoor. Outdoor electrical equipment shall be installed in suitable enclosures and shall be protected from accidental contact by unauthorized personnel, or by vehicular traffic, or by accidental spillage or leakage from piping systems. The working clearance space shall include the zone described in 110.26(A). No architectural appurtenance or other equipment shall be located in this zone.

ARTICLE 352

Rigid Nonmetallic Conduit: Type RNC

NOTE: Relocating the following OSHPD Amendment from Section 347-3(g) to Section 352.12(G)
~~347-3. 352.12~~ Uses Not Permitted. RNC shall not be used in the following locations:

...

(F) Theaters and Similar Locations. In theaters and similar locations, except as provided in Articles 518

and 520.

(G) *[For OSHPD 1, 2, 3 & 4] For branch circuits in patient care areas of hospitals, nursing homes, clinics, and correctional treatment centers, ~~and other health care facilities.~~*

ARTICLE 362
Electrical Nonmetallic Tubing:
Type ENT

NOTE: Relocating the following OSHPD Amendment from Section 331-4(10), to Section 362.12(11)
~~331-4. 362.12~~ Uses Not Permitted. ENT shall not be used in the following:

...

(10) Where subject to physical damage

(11) *[For OSHPD 1, 2, 3, & 4] For branch circuits in patient care areas of hospitals, nursing homes, clinics, and correctional treatment centers.*

ARTICLE 380
Multioutlet Assembly

NOTE: Relocating the following OSHPD Amendment from Section 353-2(b)7 to Section 380(B)(7)
~~353-2. 380.2(B)~~ Not Permitted. A multioutlet assembly shall not be installed as follows:

...

(6) In any hazardous (classified) locations except Class I, Division 2 locations as permitted in 501.4(B)(3)

(7) *[For OSHPD 1, 2, 3, & 4] Nonmetallic multioutlet assembly shall not be used in patient care areas of hospitals, nursing homes, clinics, and correctional treatment centers.*

ARTICLE 382
Nonmetallic Extensions

NOTE: Relocating the following OSHPD Amendment from Section 342-4(f) to Section 382.12(5)
~~342-4. 382.12~~ Uses Not Permitted. Nonmetallic extensions shall not be used as follows:

...

(4) Where run through a floor or partition, or outside the room in which it originates

~~(f)~~ (5) *[For OSHPD 1, 2, 3, & 4] For branch circuits in patient care areas of hospitals, nursing homes, clinics, and correctional treatment centers.*

ARTICLE 388
Surface Nonmetallic Raceways

NOTE: Relocating the following OSHPD Amendment from Section 352-22(b)(8) to Section 388.12(8) ~~352-22-~~ 388.12 Uses Not Permitted. Surface nonmetallic raceways shall not be used in the following:

...

- (7) For conductors whose insulation temperature limitations would exceed those for which the nonmetallic raceway is listed
- (8) *[For OSHPD 1, 2, 3, & 4] Surface nonmetallic raceways shall not be used for branch circuits in patient care areas of hospitals, nursing homes, clinics, and correctional treatment centers, except for low voltage application.*

ARTICLE 392
Cable Trays

NOTE: Relocating the following OSHPD Amendment from Section 318-4 to Section 392.4 ~~318-4-~~ 392.4 Uses Not Permitted. Cable tray systems shall not be used in hoistways or where subject to severe physical damage. Cable tray systems shall not be used in environmental airspaces, except as permitted in Section 300.22, to support wiring methods recognized for use in such spaces. *[For OSHPD 1, 2, 3, & 4] Nonmetallic cable trays shall not be used for branch circuits in patient care areas of hospitals, nursing homes, ~~and clinics-~~, and correctional treatment centers.*

ARTICLE 404
Switches

NOTE: Relocating the following OSHPD Amendment from Section 680-62(g)(1) to Section 404.8(A.1) Switches ~~680-62(g)(1)~~ 404.8 Accessibility and Grouping.

(A) Location. All switches and circuit breakers used as switches shall be located so that they may be operated from a readily accessible place. They shall be installed so that the center of the grip of the operating handle of the switch or circuit breaker, when in its highest position, is not more than 2.0 m (6 ft 7 in.) above the floor or working platform.

Exception No. 1: On busway installations, fused switches and circuit breakers shall be permitted to be located at the same level as the busway. Suitable means shall be provided to operate the handle of the device from the floor.

Exception No. 2: Switches and circuit breakers installed adjacent to motors, appliances, or other equipment that they supply shall be permitted to be located higher than specified in the foregoing and to be accessible by portable means.

Exception No. 3: Hookstick operable isolating switches shall be permitted at greater heights.

(A.1) [For OSHPD 1, 2, & 4] Switches shall not be installed within shower rooms or stalls or be accessible from within these areas. Switches shall not be installed within 5 feet (1.52 m) of the perimeter of bathtubs.

ARTICLE 406
Receptacles, Cord Connectors, and
Attachment Plugs (Caps)

NOTE: Relocating the following OSHPD Amendment from Section 680-62(g)(1) to Section 406.8(C.1) Receptacles
~~680-62(g)(4)~~ 406.8 Receptacles in Damp or Wet Locations.

(C) Bathtub and Shower Space. A receptacle shall not be installed within a bathtub or shower space.

(C.1) [For OSHPD 1, 2, & 4] Receptacles shall not be installed within shower rooms or stalls or be accessible from within these areas. Receptacles shall not be installed within 5 feet (1.52 m) of the perimeter of bathtubs.

ARTICLE 517
Health Care Facilities

~~517-3.~~ 517.2 Definitions.

Patient Care Area. Any portion of a health care facility wherein patients are intended to be examined or treated. Areas of a health care facility in which patient care is administered are classified as general care areas or critical care areas, either of which may be classified as a wet location. The governing body of the facility designates these areas in accordance with the type of patient care anticipated and with the following definitions of the area classification.

~~(b) Critical Care Areas.~~

General Care Areas. Patient bedrooms, examining rooms, treatment rooms, clinics, and similar area in which it is intended that the patient will come in contact with ordinary appliances such as a nurse call system, electrical beds, examining lamps, telephone, and entertainment devices. In such areas, it may also be intended that patients be connected to electromedical devices (such as heating pads, electrocardiographs, drainage pumps, monitors, otoscopes, ophthalmoscopes, intravenous lines, etc.)

Critical Care Areas. Those special care units, intensive care units, coronary care units, angiography laboratories, cardiac catheterization laboratories, delivery rooms, operating rooms, *[For OSHPD 1, 2, 3, & 4] post-operative recovery rooms*, and similar areas in which patients are intended to be subjected to invasive procedures and connected to line-operated, electromedical devices.

Wet Locations. Those patient care areas that are normally subject to wet conditions while patients are present. These include standing fluids on the floor or drenching of the work area, either of which condition is intimate to the patient or staff. Routine housekeeping procedures and incidental spillage of liquids do not define a wet location.

~~517-4.~~ 517.4 [For OSHPD 1, 2, & 4] Services/Systems and Utilities Refer to Section 420A.4.0 Chapter 4A, Part 2, California Building Code.

II. Wiring and Protection

517.10 Applicability.

(A) Part II shall apply to patient care areas of all health care facilities.

(B) Part II shall not apply to the following:

- (1) Business offices, corridors, waiting rooms, and the like in clinics, medical and dental offices, and outpatient facilities.
- (2) Areas of nursing homes and limited care facilities wired in accordance with Chapters 1 through 4 of this Code where these areas are used exclusively as patient sleeping rooms.

~~517-10.1~~ 517.10.1 *[For OSHPD 1, 2, 3, & 4] **Applicability.** Part B II shall apply to hospitals, nursing homes, clinics, and correctional treatment centers.*

Exception: Part B II shall not apply to business offices, corridors, waiting rooms, and the like in clinics and outpatient facilities.

517.12. Wiring Methods. Except as modified in this article, wiring methods shall comply with the applicable requirements of Chapters 1 through 4 of this Code.

(A.1) *[For OSHPD 1, 2, & 4] Wall spaces in patient care rooms shall not be used for the installation of switchboards and panelboards, unless dedicated for that room.*

[This is an existing amendment that is being relocated from Article 110.26(F), Exception No. 2 to this location in Article 517.12]

517-18. 517.18 General Care Areas.

(a) Patient Bed Location. Each patient bed location shall be supplied by at least two branch circuits, one from the emergency system and one from the normal system. All branch circuits from the normal system shall originate in the same panelboard.

~~**(a.1) (A.1)** *[For OSHPD, 1, 2, 3, & 4] **Patient Bed Location Branch Circuits.** Each patient bed location where inpatient care is provided shall be supplied by at least two branch circuits, at least one of which originates in a normal panelboard or equipment emergency branch panelboard, and at least one of which originates from the critical branch emergency panelboard.*~~

Exception No. 1: Branch circuits serving only special-purpose outlets or receptacles, such as portable X-ray outlets, shall not be required to be served from the same distribution panel or panels.

Exception No.2: Requirements of Section 517.18(A) shall not apply to patient bed locations in clinics, medical and dental offices, and outpatient facilities; psychiatric, substance abuse, and rehabilitation hospitals; sleeping rooms of nursing homes and limited care facilities meeting the requirements of Section 517.10(B)(2) *[For OSHPD 1, 2, 3, & 4] Section 517.10.1 Exception.*

[For OSHPD 1, 2, 3, & 4] Exception No. 2.1: Clinics, outpatient facilities, psychiatric, substance abuse, and rehabilitation hospitals, nursing homes, and correctional treatment centers providing only basic services.

Exception No. 3: A general care patient bed location served from two separate transfer switches on the emergency system shall not be required to have circuits from the normal system.

(b) (B) Patient Bed Location Receptacles. Each patient bed location shall be provided with a minimum of four receptacles. They shall be permitted to be of the single or duplex types or a combination of both. All receptacles, whether four or more, shall be listed "hospital grade" and so identified. Each receptacle shall be grounded by means of an insulated copper conductor sized in accordance with Table 250.122.

Exception No. 1: Requirements of Section 517.18(b) shall not apply to psychiatric, substance abuse, and rehabilitation hospitals meeting the requirements of 517.10(B)(2) *[For OSHPD 1, 2, 3, & 4] Section 5107.10.1 Exception.*

Exception No. 2: Psychiatric security rooms shall not be required to have receptacle outlets installed in the room.

Exception No. 3: *[For OSHPD 1, 2, & 3] Hospital grade receptacles shall not be required in patient sleeping areas in nursing homes.*

(C) Pediatric Locations. Receptacles located within the patient care areas of pediatric wards, rooms, or areas shall be listed tamper resistant or shall employ a listed tamper resistant cover.

(d) (D) *[For OSHPD 1, 2, & 4] Nursery receptacles.* One duplex receptacle shall be provided for every two bassinets.

517-19. 517.19 Critical Care Areas.

(b) (B) Patient Bed Location Receptacles.

(1) Minimum Number and Supply. Each patient bed location shall be provided with a minimum of six receptacles, at least one of which shall be connected to either of the following:

- (1) The normal system branch circuit required in 517.19(A)
- (2) An emergency system branch circuit supplied by a different transfer switch than the other receptacles at the same location.

[For OSHPD 1, 2, & 4] Exception No. 1: Each intensive care newborn nursery bed equivalent and each bed location in intensive care and coronary care units shall be equipped with at least 10 single or 5 duplex receptacles listed "Hospital Grade" and so identified; each receptacle shall be grounded to the reference grounding point by means of an insulated grounding conductor.

517-22 517.22 *[For OSHPD 1, 2, 3, & 4] Artificial Lighting.*

(a) All rooms and passageways shall be provided with artificial illumination.

(b) Illumination intensity values in each area shall meet the recommended values in the latest edition of the Illuminating Engineering Society Handbook.

(c) Lamp Protection. Lamps in fixtures shall be protected against accidental breakage by means of an enclosing lens or diffuser.

Exception No. 1: The fixture may be protected by means of louvers with a maximum cell size of 96 square inches if all part of the fixture are completely recessed above the ceiling or if the fixture is completely recessed in an approved soffit.

Exception No. 2: Open bottom luminaires with a maximum opening of 144 square inches if completely recessed above the ceiling or completely recessed in an approved soffit.

Exception No. 3: Wall mounted night lights with louvered covers provided they are completely recessed.

Exception No. 4: Wire guards or plastic tube guards in service areas such as electrical rooms, equipment rooms, and janitor closets.

(d) Special Locations.

(1) The general illumination fixtures in nurseries, central sterilizing rooms, treatment rooms, surgical suites, intensive care units, recovery rooms, obstetrical suites, emergency rooms, and laboratories shall be smooth and easily cleanable.

(2) Lighting in intensive care nurseries shall be controlled by a dimmer or other means of multiple switching to provide varied lighting intensities. Lighting shall have the ability to provide 100 footcandles at each infant bed location when needed.

(3) Individual bed area lighting in intensive care and coronary care units shall be controlled by a dimmer or other means of multiple switching, to provide varied lighting intensities.

~~**517-23.** [For OSHPD 1, 2, 3, & 4] **Receptacles Powered by the Alternate (Emergency) Source and Light Switches Controlling Lighting Powered by the Alternate (Emergency) Source.** All receptacles connected to the alternate (emergency) source and all light switches controlling lighting connected to the alternate (emergency) source shall be identified in a conspicuous and permanent manner such as with red colored plates and/or red colored devices.~~

~~**517-24.**~~ **517.24** [For OSHPD 1, 2, 3, & 4] **Mobile Medical Facilities.**

(a) Feeder. The feeder shall be sized in accordance with the requirements of Article 220.

(b) Service Receptacle. The service receptacle shall be listed and rated for its use.

(c) Disconnect. A disconnecting means listed and rated for its use shall be located adjacent to and within sight of the service receptacle. It shall be capable of simultaneously disconnecting the ungrounded conductors which supply the service receptacle.

~~**517-30.**~~ **517.30** **Essential Electrical Systems for Hospitals.**

(a) (A) Applicability. The requirements of Part III, Sections 517.30 through 517.35, shall apply to hospitals [For OSHPD 1 & 4] and correctional treatment centers providing optional services where an essential electrical system is required.

~~**(b) (B)**~~ **General.**

(7) *[For OSHPD 1, 2, & 4] All automatic transfer switches in general acute care hospitals and correctional treatment centers providing optional services shall have provisions for electrically by-passing and isolating the transfer switch. The by-pass switch shall be capable of by-passing loads to the emergency source or normal source if the selected by-pass source voltage is available.*

~~(d.4)~~ (D.1) *[For OSHPD 1, 2, 3, & 4] Capacity of Systems.* The essential electrical system shall have adequate capacity to meet the demand for the operation of all functions and equipment to be served by each system and branch.

(E) Receptacle Identification. The cover plates for the electrical receptacles *[For OSHPD 1 & 4] and light switches* or the electrical receptacles *[For OSHPD 1 & 4] and light switches* themselves supplied from the emergency system shall have a distinctive color or marking so as to be readily identifiable. [NFPA 99, 3.4.2.2.4(b)2]

~~517-32.~~ 517.32 Life Safety Branch. No function other than those listed in 517.32(A) through (G) shall be connected to the life safety branch. The life safety branch of the emergency system shall supply power for the following lighting, receptacles, and equipment.

~~(e)~~ (C) Alarm and Alerting Systems. Alarm and alerting systems including the following:

(1) Fire alarms

(2) Alarms required for systems used for the piping of nonflammable medical gases.

~~(3) [For OSHPD 1] Seismic switch annunciator(s)~~

(D) Communications Systems. Hospital communications systems, where used for issuing instructions during emergency conditions.

(E) Generator Set Location. Task illumination battery charger for emergency battery-powered lighting unit(s) and selected receptacles at the generator set location.

~~(f)~~ (F) Elevators. Elevator cab lighting, ~~[For OSHPD 1] elevator machine room lighting,~~ control, communications, ~~[For OSHPD 1] seismic switch,~~ and signal systems.

~~517-33.~~ 517.33 Critical Branch.

~~(a)~~(A) Task Illumination and Selected Receptacles. The critical branch of the emergency system shall supply power for task illumination, fixed equipment, selected receptacles, and special power circuits serving the following areas and functions related to patient care:

...

(8) Task illumination, selected receptacles, and selected power circuits for the following:

- a. General care beds (at least one duplex receptacle per patient bedroom)
- b. Angiographic labs
- c. Cardiac catheterization labs
- d. Coronary care units
- e. Hemodialysis rooms or areas

- f. Emergency room treatment areas (selected)
- g. Human physiology labs
- h. Intensive care units
- i. Postoperative recovery rooms (selected)
- [Subsections j through n for OSHPD 1]*
- j. *Lithotripsy treatment rooms*
- k. *Laser operating rooms*
- l. *Electric clocks as required by Part 2, Title 24, C.C.R.*
- m. *Food preparation areas, central supply, and utility rooms*
- n. *Electrical and mechanical rooms*

(9) Additional task illumination, receptacles, and selected power circuits needed for effective hospital operation. Single-phase fractional horsepower motors shall be permitted to be connected to the critical branch. [NFPA 99, 3.4.2.2.2(c)]

(10) *[For OSHPD 1, 2, 3, & 4] Sensor-operated fixtures when used to comply with Table 4-2, California Plumbing Code.*

517-34. 517.34 Equipment System Connection to Alternate Power Source. The equipment system shall be installed and connected to the alternate power source such that the equipment described in 517.34(A) is automatically restored to operation at appropriate time-lag intervals following the energizing of the emergency system. Its arrangement shall also provide for the subsequent connection of equipment described in 517.34(B). [NFPA 99, 3.4.2.2.3(b)]

Exception: For essential electrical systems under 150 kVA, deletion of the time-lag intervals feature for delayed automatic connection to the equipment system shall be permitted.

...

(b)(B) Equipment for Delayed Automatic or Manual Connection. The following equipment shall be arranged for either delayed automatic or manual connection to the alternate power source:

- (1) Heating equipment to provide heating for operating, delivery, labor, recovery, intensive care, coronary care, nurseries, infection/isolation rooms, emergency treatment spaces, and general patient rooms and pressure maintenance (jockey or make-up) pump(s) for waterbased fire protection systems.

Exception: Heating of general patient rooms and infection/isolation rooms during disruption of the normal source shall not be required under any of the following conditions:

- (a) The outside design temperature is higher than -6.7°C (20°F).
- (b) The outside design temperature is lower than -6.7°C (20°F), and where a selected room(s) is provided for the needs of all confined patients, only such room(s) need be heated.
- (c) The facility is served by a dual source of normal power.

(1.1) [For OSHPD 1 & 4] Heating, ventilating, and cooling equipment as required by the California Mechanical Code.

- (2) An elevator(s) selected ...

~~517-40.~~ 517.40 Essential Electrical Systems for Nursing Homes and Limited Care Facilities.

~~(a.1)(A.1)~~ [For OSHPD 1, 2, & 4] Applicability. *The requirements of Part C, Section 517.40 (c) through 517.44, shall apply to nursing homes, intermediate and skilled nursing facilities, and correctional treatment centers providing only basic services.*

517.41 Essential Electrical Systems.

(E) Receptacle Identification. The cover plates for the electrical receptacles *[For OSHPD 2 & 4] and light switches* or the electrical receptacles *[For OSHPD 2 & 4] and light switches* themselves supplied from the emergency system shall have a distinctive color or marking so as to be readily identifiable. [NFPA 99, 3-5.2.2.4]

~~517-42.~~ 517.42 Automatic Connection to Life Safety Branch. The life safety branch shall be installed and connected to the alternate source of power so that all functions specified herein shall be automatically restored to operation within 10 seconds after the interruption of the normal source. No functions other than those listed in 517.42(A) through (G) shall be connected to the life safety branch. The life safety branch shall supply power for the following lighting, receptacles, and equipment.

...

~~(e) (C)~~ Alarm and Alerting Systems. Alarm and alerting systems, including the following:

- (1) Fire alarms
- (2) Alarms required for systems used for the piping of nonflammable medical gases
- (3) *[For OSHPD 1, 2, & 4] The nurses' call system*

~~517-43.~~ 517.43 Connection to Critical Branch. The critical branch shall be installed and connected to the alternate power source so that the equipment listed in 517.43(A) shall be automatically restored to operation at appropriate time-lag intervals following the restoration of the life safety branch to operation. Its arrangement shall also provide for the additional connection of equipment listed in 517.43(B) by either delayed automatic or manual operation.

Exception: For essential electrical systems under 150 kVA, deletion of the time-lag intervals feature for delayed automatic connection to the equipment system shall be permitted.

~~(a) (A)~~ Delayed Automatic Connection. The following equipment shall be connected to the critical branch and shall be arranged for delayed automatic connection to the alternate power source:

- (1) Patient care areas — task illumination and selected receptacles in the following:
 - a. Medication preparation areas
 - b. Pharmacy dispensing areas
 - c. Nurses' stations (unless adequately lighted by corridor luminaires)
- (2) Sump pumps and other equipment required to operate for the safety of major apparatus and associated control systems and alarms
- (3) Smoke control and stair pressurization systems

- (4) Kitchen hood supply and/or exhaust systems, if required to operate during a fire in or under the hood
- (5) Supply, return and exhaust ventilating systems for airborne infectious isolation rooms.
- ~~(5)(6)~~ *[For OSHPD 1, 2, & 4] Selected receptacles in patient room corridors so that any patient bed can be reached with fifty (50) foot extension cord.*
- ~~(6)(7)~~ *[For OSHPD 1, 2, & 4] Task lighting and at least one receptacle in electrical and mechanical rooms.*
- ~~(7)(8)~~ *[For OSHPD 1, 2, 3, & 4] Sensor-operated fixtures when used to comply with Table 4-2, California Plumbing Code.*

(b) (B) Delayed Automatic or Manual Connection. The following equipment shall be connected to the critical branch and shall be arranged for either delayed automatic or manual connection to the alternate power source.

- (1) Heating equipment to provide heating for patient rooms.

Exception: Heating of general patient rooms during disruption of the normal source shall not be required under any of the following conditions:

- (a) The outside design temperature is higher than -6.7°C (20°F), or
- (b) The outside design temperature is lower than -6.7°C (20°F) and where a selected room(s) is provided for the needs of all confined patients, only such room(s) need be heated.
- (c) The facility is served by a dual source of normal power as described in 517.44(C), FPN.

(1.1) *[For OSHPD 1, 2, & 4] Heating, ventilating, and cooling equipment as required by California Mechanical Code.*

~~517-44.~~ 517.44 Sources of Power.

...

(B) Alternate Source of Power. The alternate source of power shall be a generator(s) driven by some form of prime mover(s) and located on the premises.

Exception No.1: Where the normal source consists of generating units on the premises, the alternate source shall be either another generator set or an external utility service.

Exception No. 2: Nursing homes or limited care facilities meeting the requirements of 517.40(A), Exception, shall be permitted to use battery system or self-contained battery integral with the equipment. [NFPA 99, 3.4.1.1.3, 3.5.1, 16.3.3.2.1, 17.3.3.2.1]

~~(b.1)~~ (B.1) *[For OSHPD 1, 2, & 4] Alternate Source of Power. The alternate source of power shall be generator(s) driven by some form of prime mover(s), and located on the premises.*

Exception No. 1: Where the normal source consists of generating units on the premises, the alternate source shall be either another generator set, or an external utility service.

~~517-50.~~ 517.45 Essential Electrical Systems for Other Health Care Facilities

(D) Power Systems. Battery systems shall be installed in accordance with the requirements of Article 700, and generator systems shall be as described in 517.30 through 517.35.

(D.1) [For OSHPD 1, 2, 3, & 4] ~~Exception:~~ Ambulatory surgical clinics shall be provided with a generator with on-site fuel.

517.45(E) [For OSHPD 3 & 4] Receptacle and Light Switch Identification. The cover plates for the electrical receptacles and light switches or the electrical receptacles and light switches themselves, supplied from the emergency system, shall have a distinctive color or marking so as to be readily identifiable.

~~(d)~~ (F) [For OSHPD 1, 2, 3, & 4] Ambulatory Surgical Clinics.

(1) Illumination of means of egress, exit lights, alarms and alerting systems, nurses' call system, central suction system.

(2) Task illumination and selected receptacles in:

a. Operating Rooms; b. Recovery Rooms; c. Nurses' Stations; d. Electrical and mechanical equipment rooms; and e. Telephone equipment rooms.

~~(e)~~ (G) [For OSHPD 1, 2, 3, & 4] Hemodialysis Clinic.

(1) Illumination for means of egress and exit lights shall be provided, using battery-operated equipment with a capacity to sustain its connected load for a minimum of 1½ hours after loss of the normal source.

~~517-123.~~ 517.123 [For OSHPD 1, 2, 3, & 4] Signal Systems. Signal systems shall include provisions for visual and audible communications between patients and nursing personnel and between health care facility staff.

Exception No. 1: In facilities or separate buildings of 6 beds or less, a signal/call system which can be demonstrated to the enforcing agency to function effectively is permitted.

Exception No. 2: Acute psychiatric hospitals are not required to install or maintain a signal system if they do not admit or retain patients who are confined to bed.

(a) Patient/Nurse Call System. The patient/nurse call system shall be comprised of components which include an annunciator located at each nurses' station which emits an audible signal and indicates the origin of the call. The system shall require resetting at the calling station unless a two-way voice communication component is included. Visual signals visible from all parts of the corridor shall be provided above corridor doors to each patient bedroom, toilet room, and bath or shower room. The system shall be provided for at least:

(1) One call station at each bed in patient bedrooms, labor rooms, intensive care units and coronary care units, capable of being activated by patients confined to bed.

(2) One call station with cords within 12 inches of the floor in each patient toilet room, bathroom, and shower room in locations easily accessible to patients.

Exception: For correctional treatment centers, the call system may be a cordless-type actuator in a location easily accessible to the patient or may be an audio communication system.

(3) Detachable cords at all call stations in rooms designated for psychiatric patient use.

(b) Staff Emergency Call System. *The staff emergency call system shall be comprised of components which provide for at least:*

(1) One call station from each operating, delivery, special procedure, and nursery room connected to the nearest continuously staffed nurses' station or control desk.

(2) One call station from the control desk of each recovery room, intensive care unit, neonatal intensive care unit (NICU), and coronary care unit connected to the nearest continuously staffed nurses' station.

(c) Emergency Alarm System (Code Blue). *The emergency alarm system shall be comprised of components which provide for at least:*

(1) One call station at each bed and nurses' station in recovery room, intensive care unit, and coronary care unit.

(2) One call station at the control desk in each neonatal intensive care unit (NICU).

(3) A unique visual and audible signal at attending nurses' station and above each patient unit or room door.

(4) Visual and audible signals at the PBX operator or other 24-hour staffed area.

ARTICLE 620

Elevators, Dumbwaiters, Escalators, Moving Walks, Wheelchair Lifts, and Stairway Chair Lifts

620.21 Wiring Methods. Conductors and optical fibers located in hoistways, in escalator and moving walk wellways, in wheelchair lifts, stairway chair lift runways, machinery spaces, control spaces, in or on cars, in machine rooms and control rooms, not including the traveling cables connecting the car or counterweight and hoistway wiring, shall be installed in rigid metal conduit, intermediate metal conduit, electrical metallic tubing, rigid nonmetallic conduit, or wireways, or shall be Type MC, MI, or AC cable unless otherwise permitted in 620.21(A) through (C).

(A) Elevators.

(1) Hoistways. ...

(2) Cars. ...

(3) Within Machine Rooms, Control Rooms, and Machinery Spaces and Control Spaces. ...

(4) Counterweight. Flexible metal conduit, liquidtight flexible metal conduit, liquidtight flexible nonmetallic conduit or flexible cords and cables, or conductors grouped together and taped or corded that are part of listed equipment, a driving machine, or a driving machine brake shall be permitted on the counterweight assembly, in lengths not to exceed 1.8 m (6 ft) without being installed in a raceway and where located to be protected from physical damage and are of a flame-retardant type.

(5) [For OSHPD 1] Seismic Switches. *Cord-and-plug connections for seismic switches shall not be used.*

ARTICLE 680
Swimming Pools, Fountains, and Similar
Installations

680.62 Therapeutic Tubs (Hydrotherapeutic Tanks). Therapeutic tubs, used for the submersion and treatment of patients, that are not easily moved from one place to another in normal use or that are fastened or otherwise secured at a specific location, including associated piping systems, shall conform to this part.

(g) Receptacles. All receptacles within 5 ft (1.52 m) of a therapeutic tub shall be protected by a ground-fault circuit interrupter.

~~(1) [For OSHPD 1, 2, & 4] Receptacles and light switches shall not be installed within shower rooms or stalls or be accessible from within these areas. Receptacles and switches shall not be installed within 5 feet (1.52 m) of the perimeter of bathtubs.~~

ARTICLE 700
Emergency Systems

700.12 General Requirements. Current supply shall be such that, in the event of failure of the normal supply to, or within, the building or group of buildings concerned, emergency lighting, emergency power, or both shall be available within the time required for the application but not to exceed 10 seconds. The supply system for emergency purposes, in addition to the normal services to the building and meeting the general requirements of this section, shall be one or more of the types of systems described in 700.12(A) through (D). Unit equipment in accordance with 700.12(E) shall satisfy the applicable requirements of this article.

In selecting an emergency source of power, consideration shall be given to the occupancy and the type of service to be rendered, whether of minimum duration, as for evacuation of a theater, or longer duration, as for supplying emergency power and lighting due to an indefinite period of current failure from trouble either inside or outside the building.

Equipment shall be designed and located to minimize the hazards that might cause complete failure due to flooding, fires, icing, and vandalism.

Equipment for sources of power as described in 700.12(A) through (D) where located within assembly occupancies for greater than 1000 persons or in buildings above 23 m (75 ft) in height with any of the following occupancy classes — assembly, educational, residential, detention and correctional, business, and mercantile — shall be installed either in spaces fully protected by approved automatic fire suppression systems (sprinklers, carbon dioxide systems, and so forth), or in spaces with a 1-hour fire rating.

(A) Storage Battery. Storage batteries used as a source of power for emergency systems shall be of suitable rating and capacity to supply and maintain the total load for a period of 1 ½ hours minimum, without the voltage applied to the load falling below 87 ½ percent of normal.

Batteries, whether of the acid or alkali type, shall be designed and constructed to meet the requirements of emergency service and shall be compatible with the charger for that particular installation.

For a sealed battery, the container shall not be required to be transparent. However, for the lead acid battery that requires water additions, transparent or translucent jars shall be furnished. Automotive-

type batteries shall not be used.

An automatic battery charging means shall be provided.

(B) Generator Set.

(1) Prime Mover-Driven. For a generator set driven by a prime mover acceptable to the authority having jurisdiction and sized in accordance with 700.5, means shall be provided for automatically starting the prime mover on failure of the normal service and for automatic transfer and operation of all required electrical circuits. A time-delay feature permitting a 15-minute setting shall be provided to avoid retransfer in case of short-time reestablishment of the normal source.

(2) Internal Combustion as Prime Movers. Where internal combustion engines are used as the prime mover, an on-site fuel supply shall be provided with an on-premise fuel supply sufficient for not less than 2 hours' full-demand operation of the system. Where power is needed for the operation of the fuel transfer pumps to deliver fuel to a generator set day tank, this pump shall be connected to the emergency power system.

[Exceptions for OSHPD 1, 2, 3, & 4]

Exception No. 1: The on-premise fuel supply shall be sufficient for not less than 24 hours full-demand operation in acute general care hospitals and correctional treatment centers that provide optional services. For acute care hospital facilities required to meet NPC-5, the on-premise fuel supply shall be sufficient for not less than 72 hours full-demand operations.

Exception No. 2: The on-premise fuel supply shall be sufficient for not less than 6 hours full-demand operation in the following health facilities of seven or more beds: correctional treatment centers that provide only basic services, acute psychiatric hospitals, intermediate care facilities, and skilled nursing facilities.

Exception No. 3: The on-premise fuel supply shall be sufficient for not less than 4 hours full-demand operation in ambulatory surgical clinics.

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850 and Government Code Section 11152.5.

Reference(s): Health and Safety Code Sections 18928 and 129850.